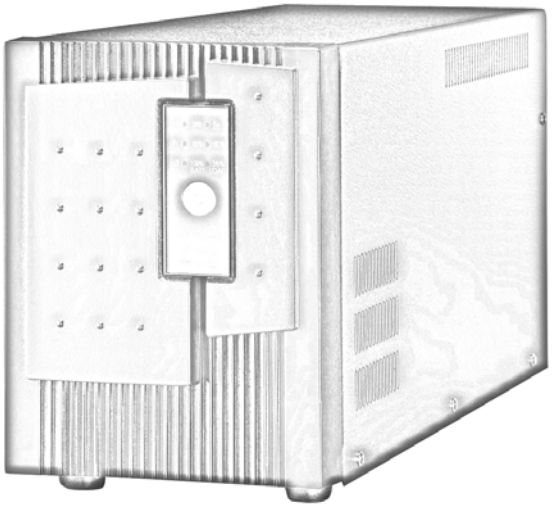
Line Interactive UPS

User's Manual



Uninterruptible Power Supply

Model No.	Type	Model No.	Type
1 KVA	Standard Tower	1KVA（L）	Standard Tower Long backup time
1.5 KVA		1.5 KVA（L）	
2 KVA		3KVA（L）	

* The "**L**" after the model name is for Long Backup time versions.

INTRODUCTION

System Description

This product is a Line Interactive UPS which offers excellent protection for PC, networking workstation and small internet-working devices. The UPS has a built-in line conditioning known as AVR (Automatic Voltage Regulator) to protect your PC against all power disturbance including power blackouts, surge and sag.

With MicroProcessor inside the **UPS** not just work hard but work smart to protect your valuable Personal Computer.

In addition, this UPS provides advanced single telephone line or modem surge suppression through the modular connectors on the back panel.

Features

- ✓ Line Interactive UPS
- ✓ Digital with Microprocessor Control
- ✓ Built-In Automatic Voltage Regulator
- ✓ True RS-232 or USB Interface
- ✓ UPSmart Monitoring Software
- ✓ Smart Charging even when Power Off
- ✓ Extended Backup Time
- ✓ Cold Start Function
- ✓ Green Mode Function
- ✓ Auto Detecting Frequency
- ✓ Lightning, surge, overload, and short-circuit protection.
- ✓ Tel/Fax/Modem Surge Protection
- ✓ Automatic Self-Test Function

CAUTION

Although your UPS has been designed and manufactured to assure personal safety, improper use can result in electrical shock or fire. To assure safety, please observe the following rules:

→ Turn off and unplug your UPS before cleaning. Do not use liquid or aerosol cleaner. Use a dry cloth to remove dust from the surface of your UPS.

→ Do not install the UPS system near water or in damp environments.

→ Do not place UPS on an unstable cart, stand or table.

→ Do not place UPS under direct sunlight or close to heat emitting source.

→ Do not place UPS power cord in any area where it may get damaged by heavy objects.

→ Do not connect UPS to home appliance e.g. hairdryer, fan etc.

→ Do not connect UPS to Laser printer

→ If you store the UPS or UPS does not operate for a long period, recharge the battery every month by connecting the UPS for 8 hours.

→ Replace the battery with the same number and type of batteries as originally installed in the UPS. The UPS must be unplugged from the AC power source before replacing batteries (this operation requires qualified personnel).

→ The UPS should only be stored if the battery is fully charged. Batteries may be damaged if left in storage and not recharge every 30 days.

→ The battery is the only periodically serviceable parts in the UPS. An expected life is approx. 1~3 years. However, frequent long discharges or ambient temperatures above 80°F will shorten battery life. Therefore, it is recommended to replace the batteries every 2 years after initiating the unit.

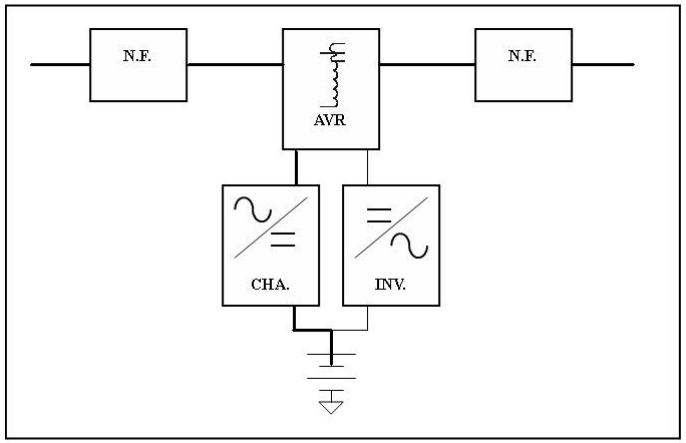
WARNING

Only a qualified technician should replace the battery. Batteries have high short-circuit current capacity; mistakes in connecting or disconnecting could cause severe burns.

SYSTEM CONCEPT

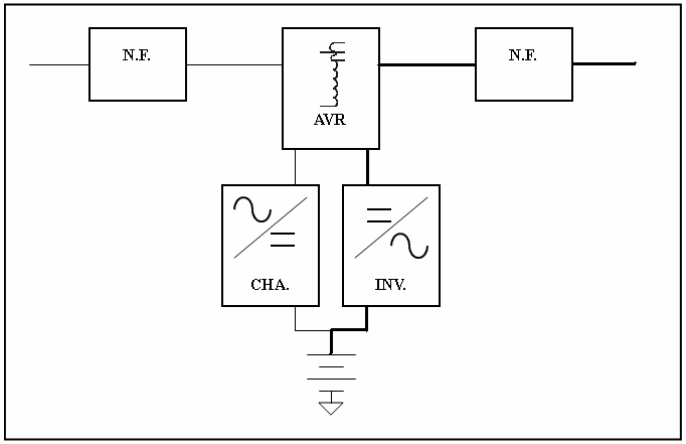
Normal Operation

Two main loops: the AC Output loop and battery charging loop. The AC output gets power from AC Input and pass through AVR to support power to load. At the same time, the AC utility input used for recharging batteries.



Battery Mode

If AC utility fails, the UPS quickly detects the problem and activates the inverter. The DC/AC inverter changes DC power from the batteries into AC and provides continuous uninterruptible power to load.



INSTALLATION AND OPERATION

Upon receipt of the UPS, inspect the shipping carton for damage. If there is any obvious damage, immediately report it to the selling dealer or the delivering carrier. If there is no damage to the shipping carton, unpack the unit and inspect the unit for damage.

The UPS is designed for installation in a protected environment within a temperature range from 32F to 104F degrees and relative humidity of 0~90% without condensation. Do not block inlets and outlets and keep the ventilation holes clean and clear. Install the system in a location free from excessive dust and chemical fumes.

Check the UPS identification label to verify that the voltage and power rating match the available line voltage and load requirements.

1. Installation

Step 1. Assure AC power source is present and suitable.

Step 2. Plug the UPS power cord into a grounded wall outlet and making sure it is with the correct same voltage of the product.

Step 3. Plug the personal computer (PC) into the UPS output.

Step 4. Start the UPS by pressing the ON/OFF button until audible buzzer stops. After the UPS turns on, it conducts a self-test and enters Normal AC power mode. Green LED will light on indicating that power is now available from the rear receptacles.

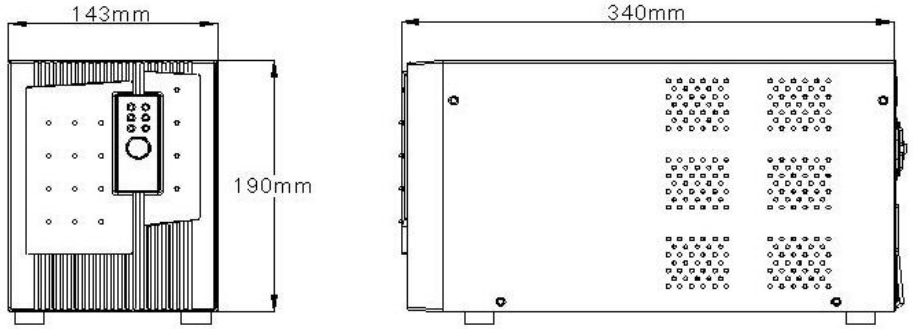
Step 5. Shutdown the UPS by pressing the ON/OFF button until the audible buzzer is silenced.

Remarks:

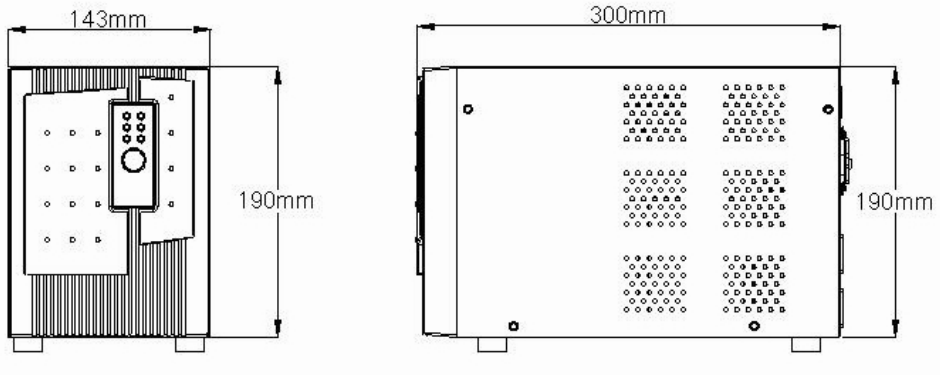
→ UPS will automatically shut down when: Battery Low, Short Circuit, Overload and/or UPS Fault.

SYSTEM DESCRIPTION

For Standard Models:



For “L” Long Backup Models:

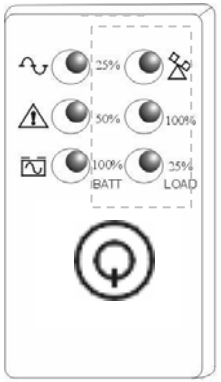


LED Indicators:

AC Normal……..

UPS Fail/ Warning….

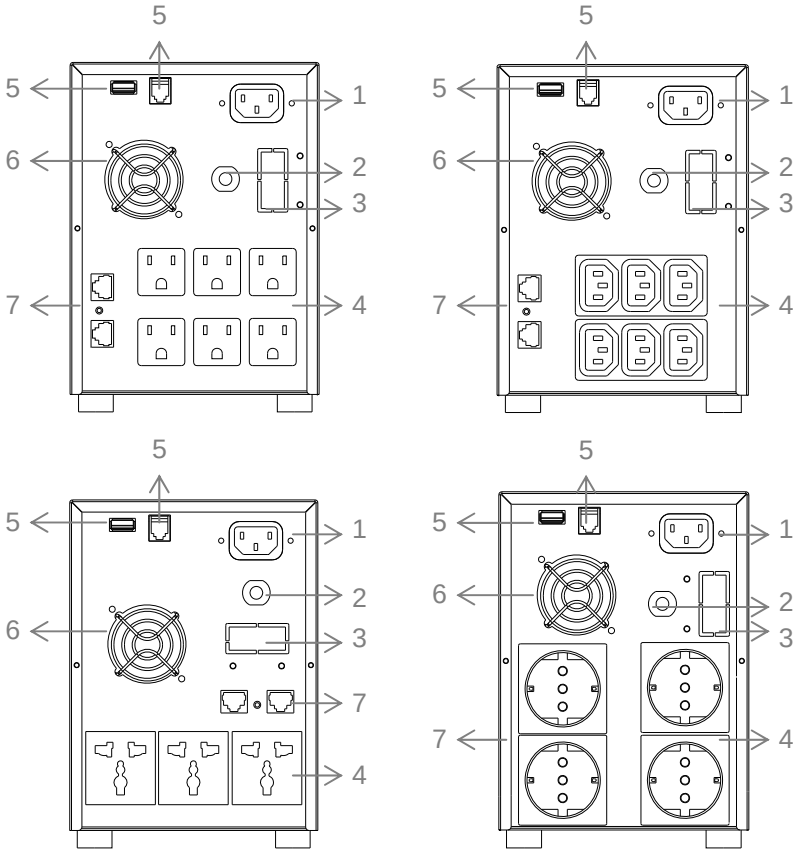
Battery Mode…….



During AC Mode: LEDs will indicate the *LOAD: 25%, 100%, Overload*.

During Battery Mode: LEDs will indicate the battery capacity left:
BATT: 100%, 50% or 25%

Back Panels (Refer according to the model you have purchased)



1- INPUT: Connect power cable from the UPS to a grounded wall outlet.

2- INPUT FUSE: protects the UPS from over current.

3- EXTERNAL BATTERY Connector (available only for “L” models)

4- OUTPUT SOCKETS: connect the devices to be protected without overloading.

5- INTERFACE: RS-232 or USB for UPSmart Software.

6- VENTILATION FAN which needs to stay clean

7- RJ-11 for Tel/Fax Line Surge Protection

TROUBLE SHOOTING

If the UPS failed to operate properly, please review the following checks firstly. If the problem remains, please consult selling dealer for service.

Is the Master power switched on?

Is the UPS plugged into a correctly working outlet?

Is the line voltage within the rating specified?

Is the fuse on the back panel blown?

Is the UPS over loaded?

Is battery not fully charged? Dead battery? Charger failure?

Trouble-Shooting Chart		
Problem	Possible Cause	Caution To Take
Cannot switch on the UPS	Front panel switch in off position.	Turn on switch.
	AC Fuse burnout.	Replace fuse and restart UPS.
	Power cord lose	Check input power.
Green LED off and the buzzer sounds every few seconds.	Battery Mode	Check if the input power is lose.
	AC Fuse burnout.	Replace fuse and restart UPS
Backup time is less than the rating.	Battery is not fully charged or charger failure.	Recharge the battery for at least 6 hours, re-test the backup time.

* If problem persists, please call for service.

SPECIFICATIONS

TECHNOLOGY		Line Interactive UPS with Smart Microprocessor Control		
CAPACITY	VA / Watts	1000VA / 600W	1500VA / 900W	2000VA / 1200W
INPUT	Nominal Voltage	120 VAC or 230 VAC Systems		
	Voltage Range	95VAC~140VAC/ 180VAC~280VAC		
	Frequency	50Hz or 60Hz Auto-Sensing		
OUTPUT	Voltage (Batt.Mode)	120 VAC or 230 VAC ±10%		
	Frequency	50Hz or 60Hz ± 1%		
	Built-in AVR	Boost & Buck		
	Waveform	Modified Sinewave		
	Transfer Time	< 10 milliseconds		
	Outlets	NEMA x 4pcs or IEC x 6pcs *(*more types available)*		
BATTERY	Type	Sealed Lead Acid Maintenance-Free		
	Capacity	12V/ 7Ah x 2pcs	12V/ 7Ah x 2pcs	12V/ 9Ah x 2pcs
	Recharge Time	8 Hours to 90% After Complete Discharge		
PROTECTION	Protection	Over Discharge Protection		
	Unit Input	Circuit Breaker for Overload and Short Circuit Protection		
	Overload	UPS will Alarm if Overload over 110% and will Immediately Shutdown if Overload over 130%		
	Short Circuit	Circuit Breaker Protection. UPS Output will Cut Off immediately.		
ALARM	Battery Back Up	Alarm will Beep every 4 Seconds		
	Battery Low	Alarm will Beep every 0.5 Second		
	Overload	Alarm will Beep continuously		
INDICATORS	Green LED	Power On - Normal		
	Yellow LED	Battery Mode		
FUNCTIONS	Smart Charger	UPS smart charging even when Power Off		
	Frequency Auto-Sensing	YES		
	Cold Start Function	YES		
	Auto Restart UPS	YES		
	Green Mode	YES		
	Tel/Modem Protection	RJ-11 & RJ 45 combo jack		
	Interface	True RS-232 or USB		
	Software	UPSmart for Windows (95, NT4.0, 98SE, ME, 2K, XP, Server2003, Vista, Win 7); Linux (Redhat 7.0~7.3 & Mandrake 8.2); Novell (4.X & 5.1)		
OPTIONAL FEATURES	Charger (Optional) for "L" models	Built-in 3A Charger		
ENVIRONMENT	Altitude	< 5000 Meter		
	Temperature	0°C ~ 40°C		
	Humidity	0% ~ 90% (Non-Condensing)		
	Audible Noise	< 45dB at 1 meter		
DIMENSIONS	D x W x H (mm)	318.7 x 190 x 143 / 278.5 x 190 x 143		

**** Specification Subject to Chance Without Prior Notice***